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SEP 13 1994

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September 13, 1994

William F. Caton, Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, DC 20554

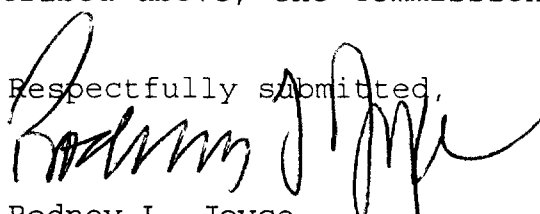
Re: GEN Docket No. 90-314
RM-7140, RM-7175, RM-7618

Dear Mr. Caton:

The enclosed "Comments of South Florida Water Management District on UTAM Plan" are filed this morning rather than yesterday due to technical problems in our offices. However, a copy was mailed yesterday to the party listed on the certificate of service. A copy also was hand-delivered yesterday to the Office of Engineering and Technology's Technical Standards Branch as reflected by the stamp on the first page of the Comments.

In view of the facts described above, the Commission should accept the Comments.

Respectfully submitted,


Rodney L. Joyce
Counsel for South Florida Water
Management District

Enclosure

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SEP 13 1994

Before the
Federal Communications Commission
Washington, D.C. 20554
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of:)
)
Amendment of the Commission's) GEN Docket No. 90-314
Rules to Establish New Personal) RM-7140, RM-7175, RM-7618
Communications Services)

COMMENTS OF SOUTH FLORIDA WATER
MANAGEMENT DISTRICT ON UTAM PLAN

The South Florida Water Management District ("SFWMD") submits these comments to urge that the Commission withhold approval of the UTAM plan for deploying unlicensed PCS transmitters ("Plan") until it is amended in the three respects described below.

BACKGROUND

SFWMD is a political subdivision of the State of Florida with jurisdiction over a nearly 18,000 square mile geographic area in South Florida. SFWMD is charged with the responsibility of meeting the region's need for flood control, water supply, water quality protection, and environmental protection and enhancement. To help carry out these duties, SFWMD owns a microwave telemetry network consisting of 48 transmitters that operate in the 2 GHz band. A map showing the location of each network transmitter is attached.

The SFWMD microwave network is essential to meet critical public safety needs of the 5.5 million people who live in the South Florida water district. This is because the network remotely operates 68 gate structures and pumping stations that control water levels in more than 1,500 miles of canals and levees. In addition, the SFWMD microwave network communicates a variety of water-related data (such as structure status, water level, rainfall, wind

velocity and salinity level) at 96 sites. If the water level becomes too high in a particular area because the network malfunctions, flooding may cost lives and produce potentially millions of dollars in damage. If the water level becomes too low, drinking water may become contaminated from salt water intrusion.

The contents of the Plan are important to SFWMD because its microwave network will operate successfully only if deployment of unlicensed PCS transmitters in South Florida is limited to specific locations where they will not produce harmful interference to the network. Without carefully controlling the locations where unlicensed PCS transmitters are deployed, successful operation of the SFWMD network will be jeopardized because several network transmitters operate on or adjacent to frequencies on which unlicensed PCS devices also will operate.

DISCUSSION

Although Commission Rules require UTAM to move all 2 GHz private microwave licensees to new frequencies at UTAM's expense, it has recognized that these moves will take several years.^{1/} Indeed, UTAM has projected in its Plan that it will take at least six years -- and maybe as many as 12 -- to move all licensees to new frequencies.^{2/}

Since many private microwave licensees must continue operating on co-channel or adjacent channel frequencies for many years,

^{1/} Third Report and Order in GEN Dkt. No. 92-9, 8 FCC Rcd. 6589, 6596 (1993).

^{2/} Plan at 43-44.

Section 15.307(a) of the Rules requires UTAM to submit a plan describing how it will ensure that unlicensed PCS transmitters operate only at sites where they will not interfere with microwave systems.^{3/} No unlicensed PCS device can be deployed until after the Commission approves UTAM's implementation plan.^{4/} And interested parties will have an opportunity to comment on the plan before the FCC decides whether to approve it since the plan establishes so many important parameters governing unlicensed PCS device deployment.^{5/}

The FCC should reject UTAM's Plan unless it is amended in the three respects described below. Without these three amendments, the Plan provides no information by which the Commission can determine that unlicensed PCS devices will be deployed only where interference to microwave operations will not occur.

First, the Plan should be rejected because it does not describe the mathematical formula UTAM will use in determining sites where unlicensed PCS devices may operate. Although the Commission intended for the Plan to describe this formula, UTAM does not do so. Instead, it states only that it eventually will

^{3/} See also Second Report and Order in GEN Dkt. No. 90-314, 8 FCC Rcd. 7700, 7738 (1993), recon. FCC 94-144 at ¶¶ 217, 220 (rel. June 13, 1994).

^{4/} Id., 8 FCC Rcd. at 7738.

^{5/} Id. In these Comments, the term "unlicensed PCS" device refers to a "coordinatable PCS device" as that term is defined in Section 15.303(b) of the Rules. Under Section 22.307, only a coordinatable PCS device may be deployed in accordance with the Plan. Other unlicensed PCS devices may not be deployed until after all 2 GHz microwave licenses have changed frequencies.

develop a site coordination formula based on "established coordination procedures and methods"^{6/} Moreover, although UTAM speculates that it may develop a site coordination formula based to some extent on the formula in TIA Bulletin 10-F, it does not commit to do so. In any event, UTAM admits that it has not yet defined what specific modifications it would make to the Bulletin 10-F coordination formula even if it later decides to use this formula as the starting point for its own site coordination formula.^{7/} As a result, the Plan provides no basis for determining whether UTAM will use a formula defining areas where unlicensed PCS transmitters may operate that meets the Commission's objective that these unlicensed transmitters do not cause harmful interference to nearby microwave receivers.

In addition, one of the highly generalized guidelines which UTAM may use to develop its site coordination procedure is inconsistent with Commission policy. UTAM apparently intends to permit deployment of unlicensed PCS devices in certain areas -- which it calls Zone 1 areas -- without any coordination.^{8/} However, the Commission contemplated that UTAM would require site coordination prior to deployment in all areas. Indeed, the FCC

^{6/} Plan at 61-64.

^{7/} Id. at 61,62.

^{8/} Id. at 62-63.

stated its expectation that the Plan would identify geographic areas where no site coordination would be allowed.^{9/}

Accepting UTAM's vague generalizations about the principles it may use to develop a site coordination formula also would be arbitrary and capricious in light of the highly detailed mathematical formula prescribed by the Commission to describe the location at which licensed PCS devices may operate. The FCC adopted a detailed coordination formula for licensed PCS because of the potential of licensed PCS to interfere with nearby co-channel and adjacent channel microwave receivers.^{10/} Given the Commission's recognition that unlicensed PCS devices also will cause harmful interference to nearby microwave receivers, it would be arbitrary and capricious to approve a Plan that does not prescribe a similarly specific formula for determining permissible unlicensed PCS operating sites.

Second, the Plan must be rejected because it does not specify the technology that manufacturers must incorporate into unlicensed PCS devices to prevent operation at a site where operation has not been authorized under the coordination formula described above.

^{9/} Second Report and Order in GEN Dkt. No. 90-314, supra, 8 FCC Rcd. at 7739 n.79.

^{10/} Id., 8 FCC Rcd. at 7757-73, recon., FCC 94-144, supra, at ¶¶ 186-193 and App. E. Importantly, notwithstanding the need for specific site coordination procedures to ensure that licensed PCS systems do not cause harmful interference to microwave operations, the Commission declined to prescribe the site coordination formula in TIA Bulletin 10-F because it had not had time to evaluate that formula and had not provided it to the public for comment. Memo. Op. and Order, FCC 94-144, supra, at ¶ 186.

The Commission contemplated that UTAM's Plan would prescribe this technology.^{11/} However, the Plan merely repeats the FCC's generic disablement requirement:

The unlicensed PCS system mobile part must either be physically constrained to the unlicensed fixed part location or incorporate a mechanism that will engage when the unlicensed PCS mobile part does not detect the presence of the fixed part. . . . The fixed part . . . may not become operational until its geographic location has been verified as available for deployment by UTAM.^{12/}

Moreover, the disablement technology that the Plan appears to endorse should be rejected by the Commission because it will not work. The Plan implies that manufacturers can meet the automatic disablement requirement by incorporating technology into PCS devices that prohibits transmitters from operating if they have been disconnected from a power source for more than eight hours.^{13/} This can be so easily avoided that it is a sham. For substantially less than \$100, owners of unlicensed PCS devices could obtain and connect a 12-volt battery and inverter to their PCS hardware in order to ensure that it does not lose power when moved to a new location.

Automatic disablement technology that is so easily disarmed would particularly threaten private microwave licensees in high growth areas like South Florida. By many measures, South Florida

^{11/} See Sections 15.307(d) and (e) of the Rules; Second Report and Order in GEN Dkt. No. 90-314, supra, 8 FCC Rcd. at 7739-40.

^{12/} Plan at Att. F., pp.1, 2.

^{13/} Id., at Att. F, p.5.

is the most rapidly growing area of the country. Dozens of businesses move there from other parts of the country every day. Within the next several years, many businesses can be expected to purchase unlicensed PCS equipment before moving to South Florida. If they operate this equipment after moving to Florida without re-coordinating the operating site, successful operation of the SFWMD microwave network obviously will be jeopardized.

There are many ways to ensure disablement when unlicensed PCS equipment is moved. One would be to require monitoring of the global positioning satellites by each unlicensed PCS base station. Under this approach, the PCS equipment would be programmed to shut down if it is moved from its coordinated site.

Third, the Commission should reject the Plan because it does not describe the procedures UTAM will use to verify that all installations of unlicensed PCS devices are consistent with whatever site coordination formula UTAM eventually adopts. The Commission contemplated that the Plan would describe these verification procedures.^{14/} However, UTAM states in the Plan that it does not intend to do this.^{15/} Instead, it intends to let manufacturers develop their own site verification procedures subject only to three, highly ambiguous conditions:

- Procedures "must have a uniqueness feature that would be different each time the process is used";

^{14/} Second Report and Order in GEN Dkt. 90-314, supra, 8 FCC Rcd. at 7739 n.79.

^{15/} Plan at 65-66.

- Procedures "must not be readily replicable by unauthorized personnel";
- Procedures "must contain a function that reports the system size, unit power output and county of installation."^{16/}

CONCLUSION

For many years, private microwave facilities will operate on the same or adjacent channels as unlicensed PCS devices. Recognizing the need to protect these microwave licensees from harmful interference by unlicensed PCS transmitters, the Commission instructed UTAM to file a plan which describes in detail how it will ensure that no unlicensed PCS equipment operates at any location where it could interfere with microwave receivers. The FCC barred deployment of any unlicensed PCS equipment until it approved this plan. The plan UTAM has filed fails to comply with the FCC's orders in three ways and thus should be rejected in the absence of suitable amendments: (1) It does not disclose the coordination formula UTAM intends to use to determine locations where unlicensed PCS devices may operate; (2) It does not specify what technology manufacturers must incorporate into all unlicensed PCS equipment to ensure that the equipment automatically quits working if it is moved to a new site; and (3) It does not describe the procedures UTAM will use to verify that all installations of PCS devices are

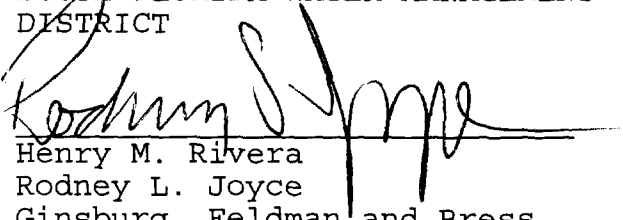
^{16/} Id. at 66. The Plan lists three other conditions that supposedly must govern the manufacturer's location verification process. Id. In fact, these three remaining conditions do not even describe characteristics of the verification process.

consistent with whatever coordination formula UTAM eventually adopts.

Respectfully submitted,

SOUTH FLORIDA WATER MANAGEMENT
DISTRICT

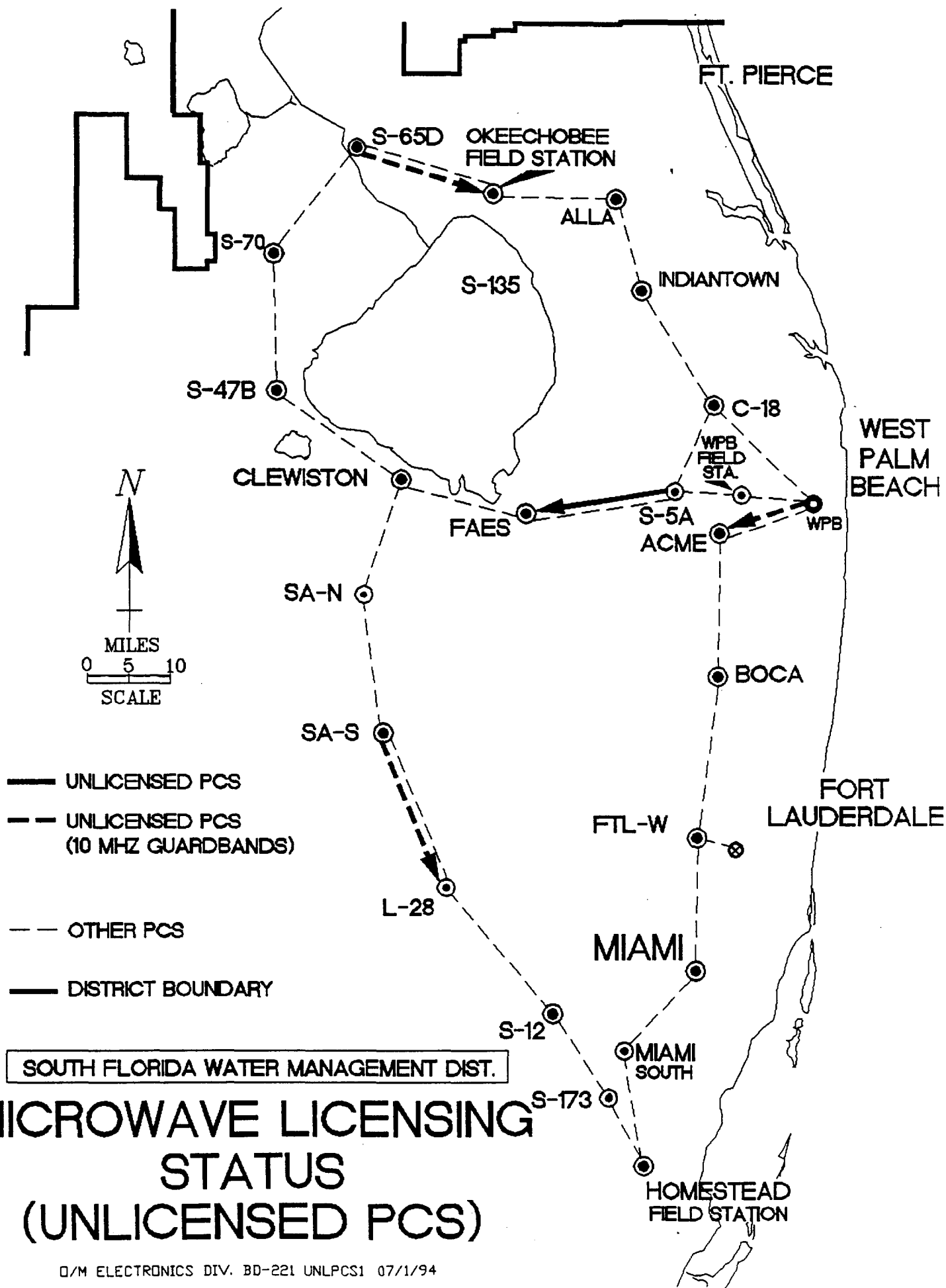
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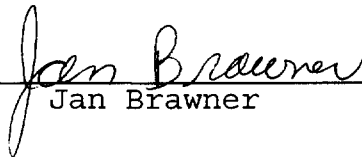
September 12, 1994



CERTIFICATE OF SERVICE

I certify that a copy of the foregoing "Comments of South Florida Water Management District on UTAM Plan" was sent by first class mail on September 12, 1994, to the following:

R. Michael Senkowski, Esq.
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Washington, DC 20006
(Counsel for UTAM)



Jan Brawner